

Appl. No. 10/714,331
Amdt. Dated June 4, 2008
Supplemental Reply to Office Action of January 2, 2008

Amendments to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A system to provide finer grain control in optimizing multiple workloads across multiple servers, comprising:

a plurality of servers to be utilized by multiple workloads;

a plurality of virtual machines at each of the plurality of servers, wherein the plurality of virtual machines at each of the plurality of servers each serve a different one of the multiple workloads; and

resource management logic to distribute server resources to each of the plurality of virtual machines according to current and predicted resource needs of each of the multiple workloads utilizing the server resources,

whereby, each of the multiple workloads are distributed across the plurality of servers, wherein fractions of each of the multiple workloads are handled by the plurality of virtual machines,

whereby, the fractions of each of the multiple workloads handled by each of the virtual machines can be dynamically adjusted to provide for optimization of the server resources utilized by the multiple workloads across the multiple servers.

2. Canceled.

3. (Previously Presented) The system of claim 1 wherein the server resources comprise percentage of CPU, percentage of network bandwidth, disk resources and memory resources.

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4. (Original) The system of claim 1 wherein the finer grain control is achieved through recognizing when one of the plurality of servers is overloaded and shifting work to another of the plurality of servers which is not overloaded.

5. (Previously Presented) The system of claim 1 wherein the fractions of the multiple workloads being handled by the plurality of virtual machines can be dynamically adjusted in response to workload changes at the plurality of servers, wherein the dynamic adjustment provides for maintaining an optimum utilization level of the server resources utilized by the multiple workloads distributed across the plurality of servers.

6. (Original) The system of claim 5 wherein the optimum utilization level can be configured automatically via server management software or manually by a user with administrative privileges.

7. (Previously Presented) The system of claim 1 wherein the workloads are each distributed over a subset of the plurality of virtual machines.

8. (Previously Presented) The system of claim 7 wherein each VM in the subset of the plurality of virtual machines exists at a separate one of the plurality of servers.

9. (Previously Presented) The system of claim 8 wherein the workload distribution comprises distributing the work according to resources available to each of the virtual machines within the subset.

10. (Previously Presented) The system of claim 1 further comprises at least one global resource allocator to monitor resource distribution between the plurality of virtual machines.

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11. (Original) The system of claim 10 further comprises at least one load balancer to measure the current offered load.

12. (Previously Presented) The system of claim 11 wherein the global resource allocator determines how to distribute the resources between the plurality of virtual machines, according to the measurements received from the at least one load balancer.

13. (Previously Presented) The system of claim 12 wherein each of the plurality of servers includes a local resource control agent to receive and implement instructions from the global resource allocator describing how the resources are to be distributed between the virtual machines located at each of the plurality of servers.

14. (Currently amended) A server optimization device having a processor, the server optimization device comprising:

a load balancer associated with a respective customer workload needing at least one workload server and for providing offered workload messages to a provider of workload servers;
a global resource allocator (GRA) for inclusion in said provider of workload servers, and for receiving said offered workload messages and assigning an optimum matching of combinations of whole integer numbers of workload servers and fractional virtual workload servers that the GRA controls to each of the respective customer workloads according to identified resource requirements.

15. (Previously Presented) The server optimization device of claim 14 wherein the fractional virtual workload servers are reassigned according to changes in the identified resource requirements of the workload assigned.

16. (Previously Presented) The server optimization device of claim 14 further comprises a resource control agent associated with each of the whole integer number of workload servers,

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for creating and assigning fractional virtual workload servers to workloads in response to instructions received from the global resource allocator.

17. Canceled.

18. Canceled.

19. Canceled.

20. (Previously Presented) The server optimization device of claim 14 wherein the identified resource requirements comprise the percentage of CPU, percentage of network bandwidth, disk resources and memory resources that are needed by a workload.

21. Canceled.

22. Canceled.

23. Canceled.

24. Canceled.

25. Canceled.

26. Canceled.

27. Canceled.

28. Canceled.

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REMARKS

The Applicant thanks the helpful telephone call received Monday June 2, 2008. The Applicant believes that he has amended the application in accord with the Examiner's suggestions. Specifically, the Applicant has cancelled claims 24 to 28, keeping only the claims that the Examiner indicated were allowable. The Applicant may file a continuation seeking issuance of the canceled claim material. The Applicant has also amended claim 14 to further include the limitation of a processor.

Accordingly, the Applicant respectfully requests allowance of claims 1, 3-16 and 20.

In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (510)742-7417. For payment of any additional fees due in connection with the filing of this paper, the Commissioner is authorized to charge such fees to Deposit Account No. 09-0441 (Order No. ARC920030046US 1).

Very respectfully submitted,

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/714331	:	Group Art Unit: 2195
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Applicant: PAWAN GOYAL	:	Examiner: To, Jennifer N.
	:	
Filed: November 14, 2003	:	Docket No.: ARC920030046US1
	:	
For: SYSTEM AND METHOD FOR	:	Date:
PROVIDING A SCALABLE ON	:	
<u>DEMAND HOSTING SYSTEM</u>	:	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUPPLEMENT TO AMENDMENT

Dear Sir:

This document is a supplemental amendment filed in response to a telephone conversation with the Examiner on June 2, 2008, and the Office Action of January 2, 2008, and building on the Response filed March 13, 2008. Please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 8 of this paper.